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ABSTRACT

The purposes of this study were to determine the characteristic of 40 cow-calf producers randomly selected from a county population of 300 cattlemen, to find out which recommended management practices they were using, and to learn which factors had influenced them to adopt these practices. Farmers were interviewed and data were classified in terms of high, medium, and low production groups based on average number of pounds of beef sold per cow in 1970. Regarding management practices, it was found that high producers kept replacement heifers, increased herd size, averaged a higher management level, and were using other recommended practices in comparison to low producers. Characteristics of cattlemen (high and low producers), management practices, and reasons for adoption of such practices provided a basis for development of a useful educational plan for use with cow-calf producers in Marshall County, Tennessee. (A sixteen-item list of references is provided, as is a table which presents average and total beef management practice diffusion ratings by high, medium, and low producers for cattlemen interviewed.) (SC)

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A Research Summary of a Graduate Study

SOME MOTIVATIONS OF MARSHALL COUNTY, TENNESSEE COW-CALF SYSTEM PRODUCERS

Lester Ray Brewer, Haley M. Jamison, Cecil E. Carter, Jr.
and
Robert S. Dotson

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SOME MOTIVATIONS OF MARSHALL COUNTY, TENNESSEE

COW-CALF SYSTEM PRODUCERS

by

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March 22, 1972*

ABSTRACT

This survey-type study was done with cattlemen in Marshall County, Tennessee, for the purposes of determining the characteristics of 40 randomly selected cow-calf producers and their farms, finding out which recommended management practices they were using according to production groups and trying to learn what factors had influenced them to adopt practices. Farmers were interviewed and resulting data classified and analyzed in terms of high, medium and low production groups depending on the average number of pounds of beef sold per cow in 1970.

A close analysis indicates that cattlemen interviewed in Marshall County had the following characteristics: (1) 60 percent were considered friendly toward the survey; (2) 58 percent were full-time farmers; (3) 48 percent indicated that beef was their major source of income; (4) the average educational level was 12 years; (5) over one-half were in the 45-54 age group; (6) more than one-half owned Angus cattle, and (7) the total average acreage per farm was 139.7.

*Date of completion of three related M. S. problems in lieu of thesis by Lester R. Brewer on which this summary is based.

Comparing the high and low producers, it was found that the average high producer: (1) had 1.7 more formal years of education; (2) owned 79.9 more acres of land; (3) kept 11 more beef cows, and (4) marketed 11.6 more calves.

Average management ratings for all practices were computed so that further comparisons could be made. The ratings were given to each cattlemen on each of 31 management practices.

A close analysis indicated the following regarding management practices: (1) 20 percent of the high producers kept replacement heifers, while the low producers did not keep any, (2) 20 percent of the high producers had increased herd size over the previous year as compared to 10 percent of the low producers, and (3) the management level averaged by the high producers was considerably above that of the low producers. More high producers were "using" other recommended practices, including: (1) waiting until replacement heifers were at least 15 months of age before breeding; (2) using a systematic rotational grazing program; (3) using recommended fly control practices; and (4) using recommended procedures in castration.

Other comparisons showed that high producers were doing a better job than low in: (1) keeping bulls whose records met minimum requirement of the breeder's performance tested bull sale; (2) using one or more performance tested bulls; and (3) checking frequently first-calf heifers. The cattlemen had an average weaning percent per female bred of 88 percent; high producers reporting 86 percent; medium 95 percent; and low, 83 percent.

Of the things liked most about beef cattle production, the joy of watching cattle grow and the relatively low labor requirement per unit were most often mentioned. Other reasons given were: (1) the efficient use of available pasture, and (2) the relatively good return on investment. The most often mentioned dislike was the relatively slow turnover of money invested.

Of all persons from whom advice was sought, County Agents, cattle buyers, and local veterinarians were most often used. Eighty-seven percent of the high producers listed County Agents as their main source of information, as compared to 60 percent for the low producers. Among other sources, farm magazines and The University of Tennessee bulletins or publications also were mentioned frequently.

These findings provided a basis for development of a useful educational plan for use with cow-calf producers in Marshall County, Tennessee.

RESEARCH SUMMARY*

I. PURPOSES

The purposes of this study were to characterize Marshall County, Tennessee, cow-calf system producers and their farms, to ascertain which research-verified production practices were being used by those in different production groups and to find out what factors may have influenced their practice adoption.

II. METHODS USED

The population of the study included 300 cattlemen in the county using the cow-calf system. Forty were randomly selected and personally interviewed and data analyzed. Production in pounds of calf sold per cow in 1970 ranged from 350 to 600 pounds. Producers were divided into high (480 to 600 pounds, medium (450 to 475 pounds) and low (350 to 440 pounds) production groups (15, 15, and 10 producers in the group, respectively) for comparison.

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III. MAJOR FINDINGS

Regarding Characteristics of the Producers and Their Farms

The following findings shed light on the characteristics of the cow-calf system producers and their herds:

1. Seventy-five percent of the farmers interviewed sold calves in the 450 to 600 pound range. Only 25 percent sold calves below 440 pounds.

2. Eighty percent of the high producers and 60 percent of the low were considered "friendly" and received the interviewer well.

3. Of the 40 farmers interviewed, 58 percent were full-time farmers. Fifty-three percent of the high and 80 percent of the low producers were full-time farmers.

4. Over one-half (53 percent) of the high producers listed beef as a major source of income. Only 30 percent of low producers listed beef as a major source of income.

5. The average educational level of the high producers was 12.5 years of formal education, compared to 10.8 years for the low producers. The county median level in 1960 was listed as 8.8 years (16).

6. The average age of both high and low producers was 55 years.

7. High producers had a median gross family income of $10,667 compared to $7,333 for the low production group. The median for all interviewees was $9,333.

8. Average acreage for those interviewed was 220 acres, 253 for the high and 173 for the low producers. The high producers reported up to a high of 750 acres. The largest acreage reported for low producers

was 300 acres. Also, high (151 acres) had more cropland than low (122 acres) producers.

9. High producers had 567 cows, compared to 316 for the low producers. The average number of beef cows per producer was 37.8 for the high category, 35 for the medium, and 31.6 for the low producers.

10. It is interesting to note that more high producers (27 percent) than low producers (20 percent) owned registered cows (15.8 percent than the latter (18.4 percent). The former having registered cows, however, had a smaller percent of herd registered. The high producers owned more total registered cows (88) than the low (58 cows).

11. Eighty percent of the high producers kept grade cows, compared to 90 percent of the low producers. Numbers kept by the former (40 cows) were larger than those for the latter (29 cows).

12. Of the total farmers interviewed, 30 percent kept predominately Angus grade cows. Thirty-three percent of the high producers reported that Shorthorns were the predominate breed in their grade herds, while low producers had grade Angus cattle.

13. Only 7 percent of the high and 20 percent of the low producers reported no bull. Ninety-three percent of the high and 80 percent of the low producers reported from one to three bulls with the herd.

14. Eighty percent of high and 40 percent of the low producers reported having one or more registered bulls of different breeds,

mainly Angus and Shorthorn.

15. Twenty-seven percent of the high and none of the low producers kept heifers reportedly weighing from 300 to 600 pounds.

16. Some of both low and high producers had sold cows in the $150 to $250 range during the 1970 production year.

Regarding Recommended Practices Used By the Cattlemen

In reference to the management practices of Marshall County beef producers, the following findings may be listed (See Table 1, Appendix):

1. The high producers had a higher total average rating (3.91), "tried," when compared with 3.30, "plan to try," for the low producers. All of the high producers were above 3.00 on the rating scale, while only 70 percent of the low producers rated above 3.00.

2. High producers rated higher in all 31 practices excepting 2.

3. High and medium producers received much higher diffusion ratings than low producers on three breeding practices. The Low producers were not even "aware" of the Tennessee Beef Cattle Improvement Program (T.B.C.I.P.).

4. A pronounced difference was seen between high and low producers in terms of having cows checked for pregnancy, waiting until replacement heifers were at least 15 months of age, and checking herd cows at least twice a day during the breeding season.

5. The high and medium producers arranged to have competent help available when calving difficults occurred. The low producers, on the average, had only "tried" this practice.

6. The low producers tended to rate above the high on the

recommended procedures of castrating and dehorning cattle.

7. The high producers tended to be more efficient than the low on three of four feed and pasture practices. Providing access to a recommended mineral mixture for all cattle, for example, was considered very important by the high producers.

8. Regarding the practices concerned with providing "quality feed for thin cows," "feeding brood cows at least 1.5 pounds of 32-44 percent protein supplement daily," and the "feeding of bulls during breeding season," the high producers received higher ratings.

9. Practices dealing with external and internal parasite control found the high producers doing a better job than the low.

10. In vaccinating for black leg, malignant edema, and leptospirosis, the high producers rated higher than low producers.

11. In terms of having and using appropriately an adequate system of working pens, lots, and restraining equipment, there was a very pronounced difference between the high, "tried," and low, "plan to try," producers in favor of the former.

12. Perhaps the practice of getting the advice of professionals in the area of beef production and marketing was more significant to high producers than the low since the former were "using," this practice, while the low producers were little beyond "planning to try," it.

13. Little difference was noted between high (37.5 cows) and low (34.8 cows) producers in terms of the average numbers of females bred to calve.

14. On a percentage basis, the high producers raised to weaning age an average of 32.1 calves, while the low producers raised only 28.9 calves.

15. Regarding the average number of calves marketed, 32.2 were reported for high producers and 20.6 for the low producers.

16. While the low producers sold calves between 400-450 pounds, high producers sold between 476 and 500 pounds.

17. There was only one cent per pound difference in the prices received between high (35 cents) and low (34 cents) producers in favor of the former.

18. More high (34 percent) than low (20 percent) producers produced legume hay, while the reverse was true regarding grass hay (60 and 80 percent, respectively). More low producers had mixed pastures.

19. No major difference was noted in types of restraining equipment used by high and low producers. Thirty percent of the low and none of the high producers had silos. All had sufficient water.

Regarding Factors Influencing Practice Adoption

1. Farmers were concerned with improving their beef herd management levels. Only 20 percent of the medium producers were satisfied with the present operation. The interviewer felt that most (67 percent) of the high and 40 percent of the low should have spent more time and effort on herd management.

2. The interviewer was at least "fairly well" acquainted with only 57 percent of the interviewees. More low producers (80 percent) than high (60 percent) were so known.

3. Farm magazines and University bulletins were the main sources of related reading material consulted by beef producers. Television, daily newspapers, field days, tours, and radio also were reported as useful sources by interviewees.

4. When seeking personal advice on matters of beef production, the cattlemen mentioned County Agents most frequently as a source of information. Cattle buyers, local veterinarians, and Assistant or Special Agents also were used frequently.

5. In response to questions concerning their "likes" and "dislikes" about beef production, the producers most frequently mentioned enjoying seeing cattle grow as a "like" and return on money invested as a "dislike."

IV. IMPLICATIONS

1. More attention should be given to management aspects of the beef program in Marshall County.

2. An educational program would be well-received.

3. More of the low producers might seek outside income since 80 percent of the low producers were found to be full-time farmers.

4. More younger farmers will be needed in the beef business in the future.

5. An educational effort should be initiated relative to performance testing.

6. More information and guidance should be given in the area of marketing.

7. An educational program should include the 31 management practices for all production groups with special attention to weaker practice areas (See Table 1, Appendix).

8. Special attention is needed relative to calving season, weights of calves when selling, pasture renovation, and other selected areas of management.

9. Marshall County farmers are receptive and even eager to improve their herds. Opportunities are available for an educational program that would be challenging to the producer and the Extension Service.

10. Extension workers in Marshall County should try to "communicate" more effectively with both high and low producers. Efforts should be made to extend such contact to low producers and to work with cattle buyers, local veterinarians, bankers, PCA representatives, feed dealers, salesmen, and vocational agriculture teachers who also have contacts with cow-calf producers in the county. Effort also should be made to more effectively use mass media found to be effective through the present study.

11. Effort should be made to inform present and prospective cattlemen regarding the comparative advantages and disadvantages of beef production as an important enterprise to consider in Marshall County.

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APPENDIX

Table 1. AVERAGE BEEF MANAGEMENT PRACTICE DIFFUSION RATINGS AND TOTAL AVERAGE RATINGS FOR ALL MARSHALL COUNTY CATTLEMEN INTERVIEWED, HIGH, MEDIUM, AND LOW PRODUCERS*

Beef Management Practice	All Interviewees Average Rating	High Producers Average Rating	Medium Producers Average Rating	Low Producers Average Rating
1. Used one or more performance tested bulls.	2.33	2.47	2.67	1.60
2. Bull's records met minimum requirements of the breeders' performance tested bull sale.	2.33	2.53	3.00	1.00
3. Had herd enrolled in the Tennessee Beef Cattle Improvement Program.	0.53	0.60	0.80	0.00
4. Used separate pasture area for bull(s) during off-breeding season (August through March).	2.63	2.87	2.40	2.60
5. Waited until replacement heifers were at least 15 months of age and had attained a minimum weight of 650 lbs. before breeding.	4.85	4.93	4.93	4.60
6. Had all herd cows pregnancy checked last year.	1.35	1.13	1.87	0.90
7. Checked herd cows at least twice a day during the breeding season.	3.58	3.60	3.87	3.10
8. Had and used a system for identifying each breeding female in the herd.	3.65	3.73	3.67	3.50
9. Checked first-calf heifers at least 2 or 3 times daily during calving season.	4.13	4.20	4.27	4.00
10. Checked older cows at least once a day during calving season.	4.58	4.53	4.67	4.50

Table 1. (Continued).

Beef Management Practice	All Interviewees Average Rating	High Producers Average Rating	Medium Producers Average Rating	Low Producers Average Rating
10. Checked older cows at least once a day during calving season.	4.58	4.53	4.67	4.50
11. Arranged to have competent help available when calving difficulties occurred.	4.73	4.93	5.00	4.00
12. Had and used a system for permanently identifying calves.	3.50	3.93	3.67	2.60
13. Followed recommended procedures in castration.	4.75	4.67	4.67	5.00
14. Followed recommended procedures in dehorning.	4.50	4.00	4.67	5.00
15. Provided access to a recommended mineral mixture for all cattle.	4.63	5.00	4.67	4.00
16. Followed a systematic rotational grazing program.	4.40	4.67	4.33	4.10
17. Provided extra or supplementary grazing for the herd.	3.60	4.33	3.67	2.40
18. Kept cows on good permanent pasture sod until late fall and early winter to reduce winter feed costs.	5.00	5.00	5.00	5.00
19. Kept replacement heifers separate from rest of breeding herd during winter.	3.50	2.93	3.40	4.50
20. Fed more or better quality feed to thin cows and cows recently calved than to others.	2.85	3.53	3.00	1.60

Table 1. (Continued)

Beef Management Practice	All Interviewees Average Rating	High Producers Average Rating	Medium Producers Average Rating	Low Producers Average Rating
21. Fed brood cows at least 1.5 lbs. of 32-44 % protein supplement daily when feeding low quality raoughages such as hulls, straw, and poor quality grass hay.	2.15	2.07	2.33	2.00
22. Fed bulls a concentrate during breeding season while on pasture.	2.25	3.27	1.67	1.60
23. Followed recommended fly control practices.	4.28	4.67	4.00	4.10
24. Followed recommended lice control practices.	4.68	4.93	4.67	4.30
25. Used recommended grub control practices.	4.43	4.93	4.33	3.80
26. Used recommended materials in the control of internal parasites.	4.83	4.93	5.00	4.40
27. Vaccinated all brood cows and replacement heifers for leptospirosis.	3.85	4.27	4.00	3.00
28. Vaccinated all calves for blackleg and malignant edema during nursing period.	4.50	4.33	5.00	4.00
29. Checked cattle for possible trouble at least 3 times per week throughout the year.	4.88	4.67	5.00	5.00
30. Had, used appropriately, and maintained an adequate system of working pens, lots and restraining equipment.	3.78	4.33	4.00	2.60

Table 1. (Continued).

Beef Management Practice	All Interviewees Average Rating	High Producers Average Rating	Medium Producers Average Rating	Low Producers Average Rating
31. Got the advice of professionals in the area of beef production and marketing.	4.38	5.00	4.27	3.60
TOTAL AVERAGE RATING	3.73	3.91	3.84	3.30

*In the rating scale used: 0.0 to 0.5 = unaware; 0.5 to 1.5 = aware of the recommended practice; 1.5 to 2.5 = interested in the practice; 2.5 to 3.5 = planning to try the practice; 2.5 to 4.5 = tried the practice, but not using; and 4.5 to 5.0 = using the practice.

COOPERATIVE EXTENSION WORK IN AGRICULTURE AND HOME ECONOMICS
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